

ANNEX
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
ARMSTRONG FLIGHT RESEARCH CENTER
AND STRATOLAUNCH, LLC
UNDER SPACE ACT UMBRELLA AGREEMENT
NO. 31693, DATED 2/13/2020 (ANNEX 31694).

ARTICLE 1. PURPOSE

This Annex shall be for the purpose of NASA to support flight test and operations of the Stratolaunch carrier aircraft and the development of other test vehicles and systems.

The legal authority for this Annex, consistent with the Umbrella Agreement, is in accordance with the National Aeronautics and Space Act (51 U.S.C. § 20113(e)).

ARTICLE 2. RESPONSIBILITIES

A. NASA AFRC will use reasonable efforts to:

1. Track & record video of Stratolaunch vehicle during flight and landing with NASA AFRC Long Large Optics and/or safety-chase aircraft.
2. Track & record video of Stratolaunch vehicle during final approach and landing with mobile TV van.
3. Provide near-realtime video stream to Partner over Ustream tool of footage from Long Range Optics and mobile TV van. Selection of streamed feed will be controlled by NASA and contingent upon USAF approval to reduce risk of inadvertent release of sensitive images of non-participating items at Edwards.
4. Provide still-photo support during possible landing at Edwards AFB and during post landing inspection.
5. Transfer video and still photo files onto Partner-supplied hard drives after flight activities.
6. Coordinate with USAF public affairs for any necessary sanitizing of and/or clearance of photo/video files.
7. Provide consultation of and engineering support for carrier aircraft flight control design.
8. Provide carrier aircraft class flight crew currency via aircraft or simulator flights.
9. Provide flight controls system development and testing utilizing AFRC simulators.
10. Provide tailoring consultation for RCC 319 Flight Termination System (FTS) design and testing requirements; provide FTS requirements input specific to R-2508 operations.
11. Loan AFRC FTS Hardware (as available) if it meets the maximum predicted environment for the flight conditions.
12. Provide analysis, review and consultation for high-speed vehicle design, development and operation
13. Perform a sonic boom analysis of the high-speed vehicle and recommend methods and techniques to mitigate sonic impact

14. Provide MAU-12 ejector rack(s) for engineering evaluation and flight test use
15. Provide review and consultation on high-speed vehicle separation analysis.
- 16.. Provide review of high-speed break up and debris analysis after termination (FTS) event; provide range safety analysis and assessment of flight profiles to include expectation of casualty calculation
17. Provide environmental lab test support (as available).

B. Partner will use reasonable efforts to:

1. Provide advance notice of any taxi and or flight activities when video support is potentially required (48 hour minimum) and describe flight plan details.
2. Provide squawk code of Stratolaunch or test vehicle prior to initiation of taxi or flight test.
3. Provide new hard drive(s) for transfer of electronic video & still files back to Partner.
4. Agree to not rebroadcast the streamed video data while flying within the restricted airspace.
5. Provide timely notification in the event a landing at Edwards is required.
6. Provide access to necessary data, analyses, reports and models to support development activities.
7. Provide delta acceptance and delta qualification testing of any AFRC supplied FTS equipment that the Partner decides to use

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities for this Annex defined in the "Responsibilities" Article are as follows:

Earliest next flight of Straolaunch vehicle.

9/08/2020

ARTICLE 4. FINANCIAL OBLIGATIONS

A. Partner agrees to reimburse NASA an estimated cost of \$50,000 for NASA to carry out its responsibilities under this Annex. Each payment shall be marked with AFRC and Annex number 31694.

B. NASA will not provide services or incur costs beyond the current funding. Although NASA has made a good faith effort to accurately estimate its costs, it is understood that NASA provides no assurance that the proposed effort under this Annex will be accomplished for the estimated amount. Should the effort cost more than the estimate, Partner will be advised by NASA as soon as possible. Partner shall pay all costs incurred

and have the option of canceling the remaining effort, or providing additional funding in order to continue the proposed effort under the revised estimate. Should this Annex be terminated, or the effort completed at a cost less than the agreed-to estimated cost, NASA shall account for any unspent funds within one year after completion of all effort under this Annex, and promptly thereafter, at Partner's option return any unspent funds to Partner or apply any such unspent funds to other activities under the Umbrella Agreement.

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of two years.

B. Under paragraph H. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data provided.

1. Background Data:

The Disclosing Party's Background Data, if any, will be identified in a separate technical document.

2. Third Party Proprietary Data:

The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.

3. Controlled Government Data:

The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.

4. The following software and related Data will be provided to Partner under a separate Software Usage Agreement:

None

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or five years from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 7. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact

NASA Armstrong Flight Research Center

Steve Jacobson
Active Chief, Systems Engineering and
Integration
Mail Stop: 202B
P.O. Box 273
Edwards, CA 93523
Phone: 661-276-7423
steven.r.jacobson@nasa.gov

Stratolaunch, LLC

Brandon Wood
Program Director
505 Fifth Ave S. Suite 900
Seattle, WA 98104-3821
Phone: 661-221-8355
brandon.wood@stratolaunch.com

ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the Partner. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

The signatories to this Annex covenant and warrant that they have authority to execute this Annex. By signing below, the undersigned agrees to the above terms and conditions.

NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION
ARMSTRONG FLIGHT RESEARCH
CENTER

STRATOLAUNCH, LLC

BY: 

Joel Sitz
Director for Programs

BY: p.p. 

Jean Floyd
President/Executive Director

DATE: 2/12/20.

DATE: 2/13/2020